

COLLABORATIVE COURSEWARE REVIEW

Reviewers: Heather Battig, Bonisiwe Luthuli, and Trang Le

Title of Product/Application Reviewed: Trace Effects

URL of Product/Application: <http://traceeffects.state.gov/game/>

Technical Requirements:

Appropriate for ESL/EFL Level(s): ☐ Basic ☒ Low

Intermediate ☒ Intermediate ☒ High Intermediate ☐ Advanced

(Click all that apply.)

Trace Effects appears to benefit different levels of proficiency. The levels of proficiency change in accordance with the chapters. Students who are able to finish one level can move on to the next level. The target vocabulary and grammar mentioned in the Trace Effects teacher manual also encompass over seven chapters to suit various levels of proficiency. The first chapter of Trace Effects, however, does not lend itself to beginners as suggested in the teacher manual. The listening part and the conversation exchange require learners to know a certain number of vocabulary and grammar.

Appropriate for Age Group: ☐ kindergarten ☐ elementary grades ☒ middle grades ☒ high school ☒ college age ☐ adult interest

The program is built in the context of universities and colleges in America, and it is for college and high school students.

REVIEWER 1: Trang Le

Technical Part

Accessibility and Ease of Use

- **Will all students have the necessary equipment to use the application?**

When using Trace Effects at home, learners have to download web unity player on their personal laptops, update Java, and allow a plugin to run. The time to launch Trace Effects depends on each computer/ laptop. Some are able to launch Trace Effects in 15 minutes while it may take others around 30 minutes to launch Trace Effects. At school, Trace Effects can be installed on school computers, and students only need to log in to play Trace Effects.

For schools in other countries, Trace Effects DVDs are available. Teacher manuals of Trace Effects are also distributed free to schools in other countries. In America, students need the Internet and computers or laptops to use Trace Effects.

- **Will it work across all / most mobile platforms and also work on a computer?**

There is not a mobile app for Trace Effects yet. Trace Effects works on a computer, and it works through the browsers: Google Chrome and Internet Explorer.

- **Is there an instruction manual and/or an on-screen help option?**

Trace Effects offers an instruction manual for teachers and an on-screen help option.

- **Are the application functions and instructions easy to follow, or do they cause frustration (what kind)?**

The application functions and instructions are easy to follow. By clicking on the star button on the screen, users know what objectives they should accomplish and other statistics on points they have earned, objectives that they have completed, and items they have picked up (See Figure 1).



Figure 1: Objectives and Stats in Trace Effects

User	☐ not at all ☐ somewhat ☐ average ☒ good ☐ excellent
friendliness:	

Users use cursors and buttons on the keyboard in order to move the character and perform actions (See Figure 2 and 3). Shortcuts, dictionaries, and instructions are given to help users know which buttons to press in performing a task. However, the use of buttons in moving a direction is somewhat difficult for users; sometimes users have to press two buttons at the same time in order to move.

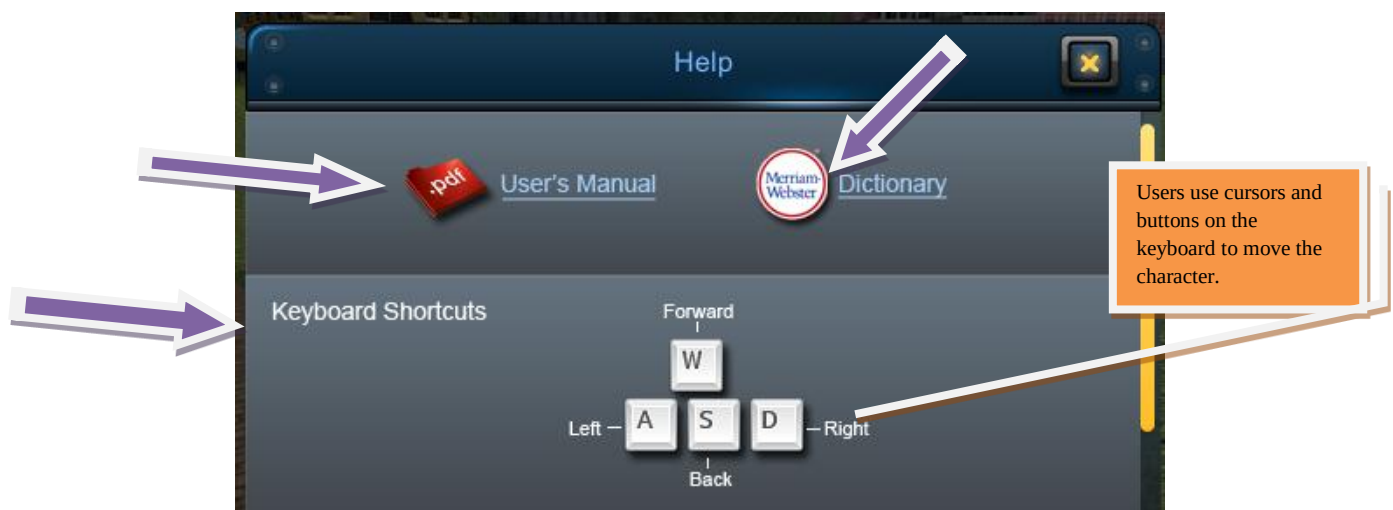


Figure 2: Keyboard Shortcuts

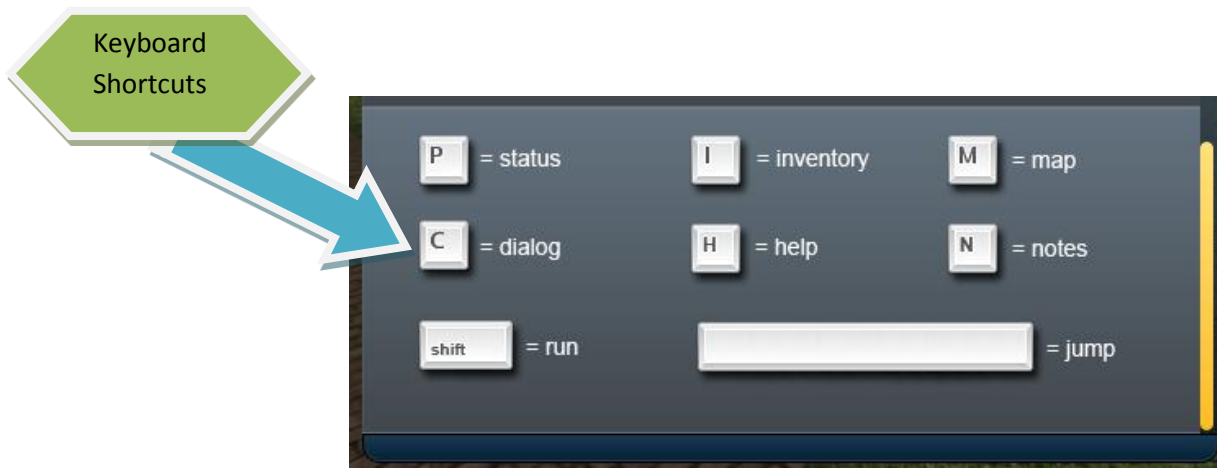


Figure 3: Keyboard Shortcuts

- **Describe the application and its functions/components briefly. What is the content? What does the application try to accomplish?**

Trace Effects is an English language video game for students ages 12-16. Trace Effects aims to help students learn English and explore American culture through puzzles, games, and adventures in an interactive world. In terms of the functions and components of Trace Effects, users collect vocabulary words instead of treasure (See Figure 4). They meet people who will help or try to hinder them. After accomplishing goals, users can move on to a higher level, which requires more complex quest activities and a higher level of language.

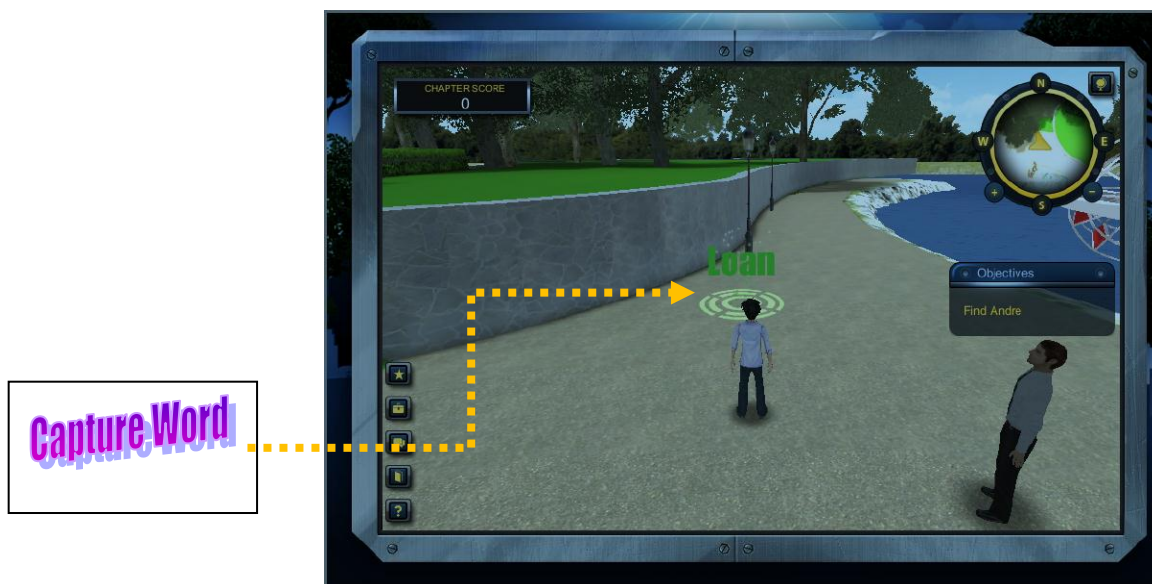


Figure 4: Collect vocabulary words instead of treasure in Trace Effects

With regards to the content of Trace Effects, Trace Effects is about Trace, a university student from the year 2045 who has accidentally traveled back in time to the present. In order to get home, he must complete a challenging mission to change the future for the better by helping six different young people accomplish great things and have a positive impact on the future. Trace Effects explores themes related to entrepreneurship, community activism, empowering women, science and innovation, environmental conservation, and conflict resolution. Generally, through Trace's journey as a representative of international students on the U.S., the program aims to provide ESL learners with knowledge about American culture as well as to introduce them to a certain target language and grammar.

Authenticity

The application provides an authentic purpose for communication and language learning through its authentic conversation exchanges and settings. Students are engaged in speaking through the **context**, the **language**, and the **character**. In terms of the program **context**, conversations occur in appropriate contexts that are familiar and typical in an American university: the professor's office, the campus, the school restaurant with typical foods that college students often have, or the library. However, the scene in which students order sandwiches in chapter 1 of Trace Effects may not be true. In reality, students may go directly to a café to buy sandwiches. It seems like they do not need a delivery man to deliver sandwiches on the quad. Other typical scenarios on a university campus that are relevant to college students themselves are nicely incorporated in Trace Effects: students playing a boom box, student athletes running on the court, and science fairs dotting the campus landscape. These authentic settings help to ease the burden of cultural barriers and provide authentic context for student discourse.

The language in Trace Effects, which provides users with phrases and collocations in both academic and social situations, also creates a need for communication. The conversational exchanges that are used in everyday conversation or small talk can serve as models for a speaking class. This is especially beneficial to international students who are able to utilize academic words but may not be familiar with the language of small talks. Through listening and participating in the conversational exchanges in Trace Effects, students will be able to notice and absorb the target language and grammar. Also, from the students' dialogue history and the teacher manual, the teacher will be able to create activities based on the language of Trace Effects to encourage both spoken and written communication.

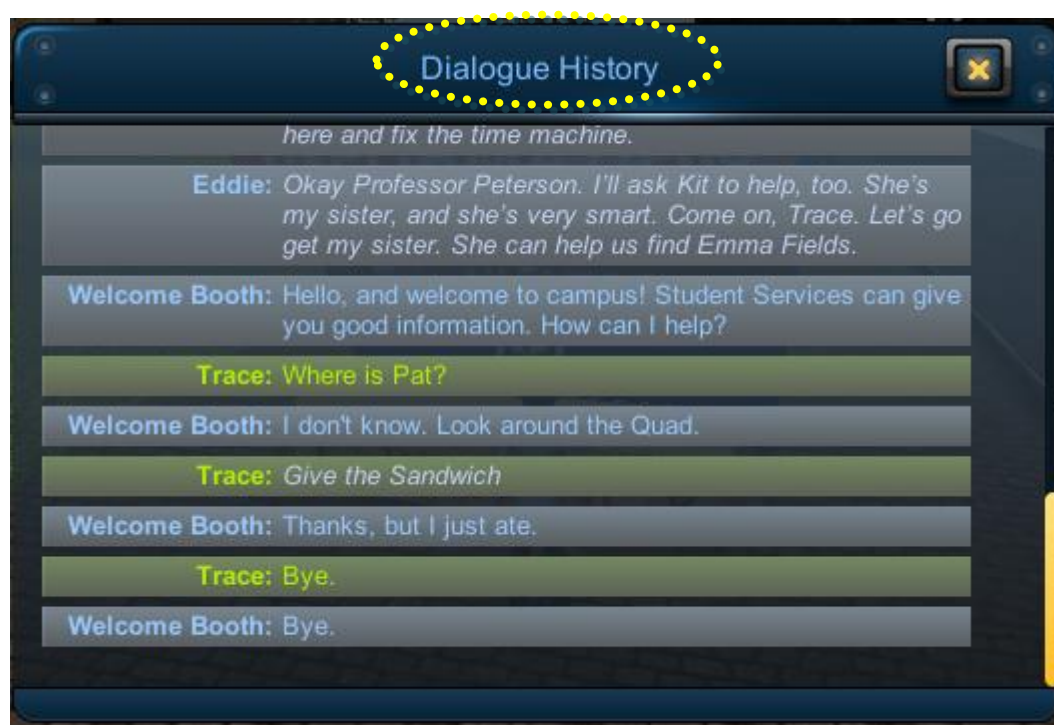


Figure 5: Dialogue History

The characters in the program dress formally and casually as college students. They talk about popular topics such as holidays, foods, and assignments. This authenticity allows learners to be immersed in a real campus with classrooms, friends, students, and professors. When playing the game, users turn themselves into Trace. Trace is them, and they are Trace. Users feel

like they understand Trace's characteristics and situations. The feelings that the program elicits is phenomenal. Users feel worried when meeting professors. They feel the silence of the library and feel excited when talking to the friends they have just met. Users are listening to conversations that actually happen. They go to a place and meet people that represent real people somewhere in the world. The essential experience that Trace Effects evokes benefits learners' motivation and interest.

Pedagogical Considerations

The learning objectives are stated in the teacher manual of Trace Effects. Each chapter targets a wide range of learning objectives that conform to the language and content of the chapter. Learners can choose different options, but they cannot control the application. For example, based on what they understand from the listening, they can play the game in their own ways. They can utilize different functions and buttons to finish the tasks. However, they have to follow the program instructions in order to accomplish the tasks. There are no other ways to complete the task without the program instructions. The learner can quit the program from any point, and their previous work is automatically saved.

In case where each student has their own password and user name, the application does not allow the instructor to view the learner's work and scores. However, when played at class, the teacher has access to the student score and progress by turning Trace Effects into a collaborative activity. Students are assigned to groups, and the teacher creates an account for each group. Then, members in a group can work together, discuss strategies, and then play at class with the screen visible to the teacher and other groups. This way, the teacher can access the group account, check the group score, and see the conversation exchanges that students have performed. By playing in groups at class, students can comment on each other's work, from

which explicit instructions can be given by the teacher to raise student awareness of target language and grammar. However, it is not possible for instructors to modify content or add customized content of the game based on learner's need.

REVIEWER 2– Bonisiwe Luthuli

A) Pedagogical considerations--Feedback: How does the application evaluate the learner's response?



The application has a link–“**Language Practice**”–where there are various exercises, about four in each chapter. Most of the exercises are Matching. The teacher manual includes so-called “**Extensive Activities**”, which asks short questions about specific aspects that form a big part of the task that they just completed. These activities are similar to essay type of assessment. For instance, they require students to explain in details what the time machine is. Students brainstorm ideas as groups or in pairs and use different strategies to present their answers, such as **Tables**.

Extension Activities

a. Time Machine. Talk about the idea of a time machine. Ask students if they would prefer to go into the past or the future. Divide learners into PAST groups and FUTURE groups. In each group, one person will be designated the writer. Students will brainstorm reasons for traveling to either the past or the future as well as specific things they would like to see. The writer will catalog these ideas in a chart like this:

Reasons for wanting to go to the past or future	Things we would like to see

- Does the application provide feedback for both correct and incorrect answers?



The application scores students' points to indicate/measure their correct answers in both evaluation methods. In the **"Language Practice"** exercises,

a positive remark and ten points would be awarded for correct answers. For incorrect answers, the feedback will be highlighted red with the message that refers students to the specific chapter that mentions the information the students need to apply. With **"Extensive Activities"** there are points located for each question answered correctly.

The points vary, depending on the length of the answer and correctness. There are no suggestions as to how many points students should attain if they answer wrong. I guess zero and students should go back to the task/game they just play to find the right answers.

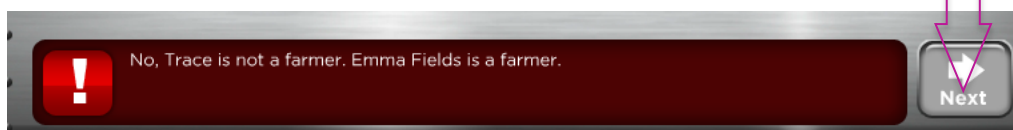
Below is how students can earn the most points in the *Welcome Booth* task:

Trace's comment or action (student chooses)	Welcome Booth worker response	Points
Hi.	Hi. Can I see your student ID?	3
Action: Show + Student ID	Great. But the date is wrong. Go to the Student Services Office in the Student Union. They'll make a new ID.	(15)
Thank you. I'll go to the Office.	Bye! Come back if you need more information.	3
Thanks for your help.	You're welcome.	3

- **Are correct responses provided?**

Does the application allow the learner to repeat exercises (and correct mistakes)?

It is not clear in “**Extensive Activities**” if students should go back to the task/game they have just played to find the right answers, but in the “**Language Practice**” it was clearly mentioned. Therefore, no correct responses are provided. My thinking is that the application wants the students to pay attention when doing these tasks and use the information so they can give ‘text’ substantive answers. That is how they will learn the vocabulary used in the game and use it appropriately. Sadly, the application does not allow the learner to repeat exercises. It has an arrow going forward only.



- **Does the application foster interaction/negotiation of meaning?**

I think, yes the application does foster interaction/negotiation of meaning. Both forms of evaluation do foster interaction/negotiation of meaning. For example, exercise 1 in “**Language Practice**” has ten questions that contain three or more sentences that match visuals, e.g., clothes or colored blocks on either side of the column. Meaning is enforced through using different domains. The sentences in Matching exercises utilize the conversation exchanges in the program. “**Language Practice**” is repetitive, enforcing vocabulary and familiarizing various question types that are present in English language–match the column, fill-in, question and short sentences answers.

On the other hand, “**Extensive Activities**” teach and focus students on gathering substantive information on tasks. Students learn to work in pairs or in groups in such activities so that they can analyze/synthesize the information on the game in their own understanding. Here students learn to write more extensive, and the goal is to see if the students can apply comprehension and lay out specifics of the tasks/game played.

In overall, an involvement of the teacher is necessary to assist learners in clarifying instructions for students who might not understand the game instructions right away and give concrete feedback for each student and guidance on how to improve their comprehension skills in tackling questions.

B) Pedagogical consideration—Content

- ✓ **Well sequenced**
- ✓ **Well organized**

Instructions are few, clear, and simple to follow (See Figure 1). The use of screenshots as visuals helps follow through with so much ease, demonstrating exactly how to answer the questions and where to submit to check if the answers are correct. Labels of chapters and topics in every page are super clear.

- ✓ **Helps learning**

Each task in chapter one has different language aspects that it focuses in—cultural and academic collocations and language domains—reading, listening when playing the game and doing exercises and writing and speaking when they work in groups and speak in discussions.

- ✓ **Free of excessive violence**

The application is totally free from any type of violence.

- ✓ **Creates challenge without anxiety**— I think the program may cause some anxiety to students, especially when students want to go back to correct a question if they got it wrong. Getting low scores due to the one-way stream might demotivate students because they’ll be getting low scores and they’ll have to play the game over again, which could be time consuming.

✓ **Allows interactions among students**

Students can work together after they have played the games and collaborate some writing tasks, brainstorming answers and sharing what they learnt or thought about the game.

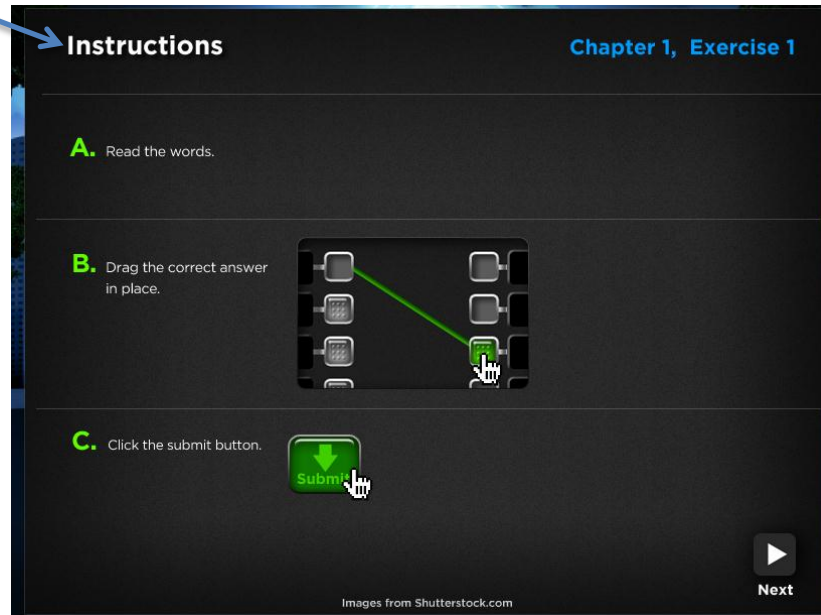


Figure 6: Instructions in the Exercise

REVIEWER 3: Heather Battig

Pedagogical Considerations - Application Output

In the game Trace Effects, eye-catching scenes team up with convincing background noises to grant a realistic ambience for the saga of our character, Trace (See Figure 7). In this particular scene, not only the setting creates an illusion of a small restaurant, but if one closes their eyes, one can truly perceive the background din of a café (since the designer targeted appropriate sounds to include in this scene). In fact, as students navigate Trace into the cafe, one can almost smell the aroma of fresh baked bread!

Throughout the chapter, the voice inflections were realistic and seemed like accurate representations of a variety of personalities just like in real life. The dialogue could be repeated as many times as were necessary for comprehension. This provides students with helpful task repetition to facilitate learning.



Figure 7: A restaurant setting in Trace Effects

However, I found the sounds in other scenes to be strange. For example, the cyclical music that permeates the background when Trace dashes through the quad is almost depressing (See Figure 8). It lends an eerie aura to this vast nearly empty campus. (It almost looks and sounds like Saint Michael's College during the Easter break, but without the chirping of cheerful birds!)



Figure 8: Background when Trace dashes through the quad

Additionally, in the exercises that follow alongside each chapter, the screens seem to be all blue and black giving a monotonous and even ominous feel to the language learner. Admittedly, some might feel this gives a cool techno feel to the screen, but I found it dreary (See Figure 9).

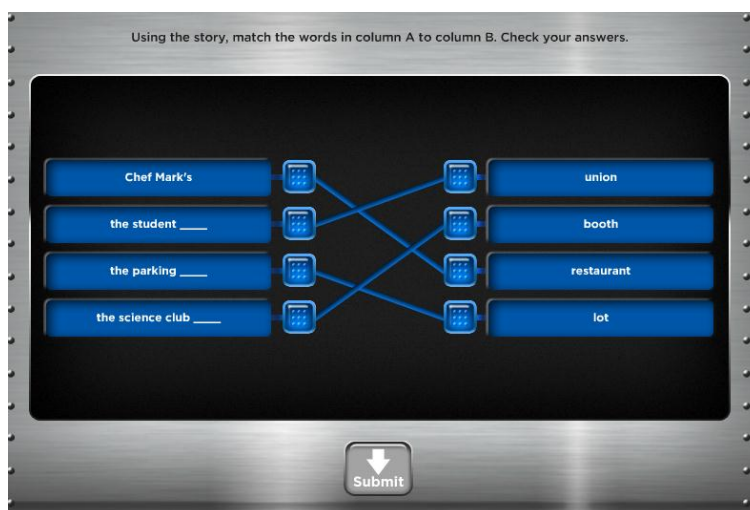


Figure 9: Black and Blue Screen

One of my classmates criticized the video representation of Trace Effects, thinking it to be low budget and simplistic. However, I know from listening to the 2013 TESOL webcast on Trace Effects and gaming that the State Department purposely kept the game simple so that it would not require sophisticated hardware, and it would be readily accessible for language learners worldwide.

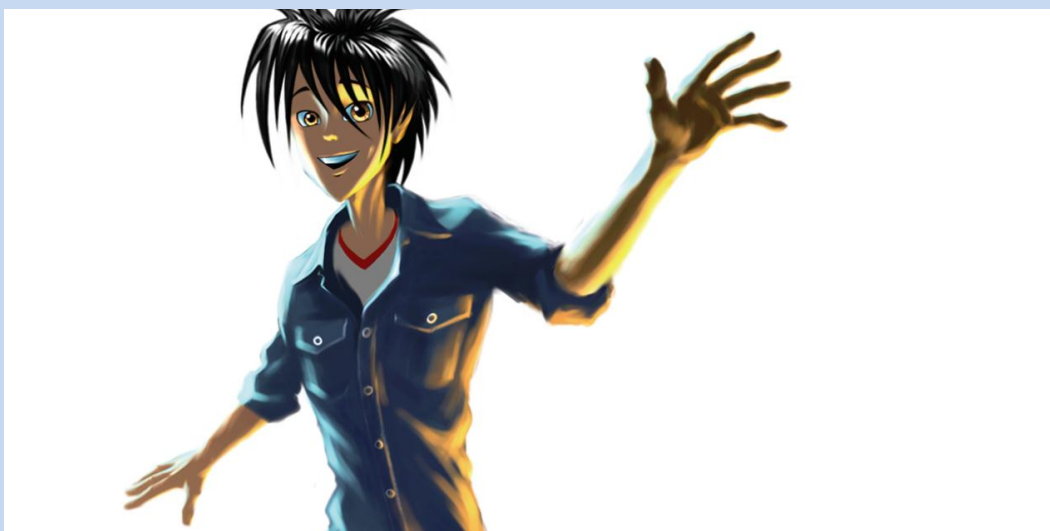
Enthusiastic Trace Effects English language learners from “around the world:”



As for the personalization of the game, who can resist the winning smile of dear Trace, and who would not empathize with his desire to return home to 2045? The State Department showed much finesse in creating a highly believable and sincere character in Trace. Students

think so!

Come meet Trace!



One weakness of the program appears to be the absence of the potential to print from the Trace Effects game and exercises. Print options do not appear to be readily available. For example, when students wish to retain a copy of the history dialogue, the only means for doing so seems to involve taking a screen shot. The print of the dialogue on a screen shot is so tiny that it is very difficult to read. I will discuss history dialogues a bit later in this review and demonstrate the screenshot for one.

Comments

Strengths and weaknesses from a pedagogical point of view

As mentioned earlier in Trang's part of the report, in Trace Effects, the main character, Trace, is a cultural ambassador, promoting the concepts of:

- entrepreneurship
- community activism
- science and innovation
- environmental conservation
- conflict resolution
- empowering women

There is no questioning the potential benefits of employing Trace as a cultural ambassador, but is he really an effective tool for teaching English? That is the ultimate question surrounding "Trace Effects" for teachers of English language learners. Many of the participants worldwide of Trace Effects will be newcomers to the gaming scene. Is this an authentic means for teaching English around the world? Click on the link below for more on Trace's role as a cultural ambassador of the United States and of English in particular.

Trace represents the United States to the global community.



Learning to play the game can be an overwhelming experience. Students must listen carefully to instructions from characters embedded in the story. Students must additionally absorb the appearance of the characters since information regarding their appearance is often key to success. There is a lot of processing going on between learning the technology of the game and comprehending and remembering the necessary information for the next step. Additionally, students must know to scroll down on the bar to complete the dialogue transaction. Otherwise they will wait quite a while attempting various functions before being able to move into the next scene. But there is no prompt telling them to do this.



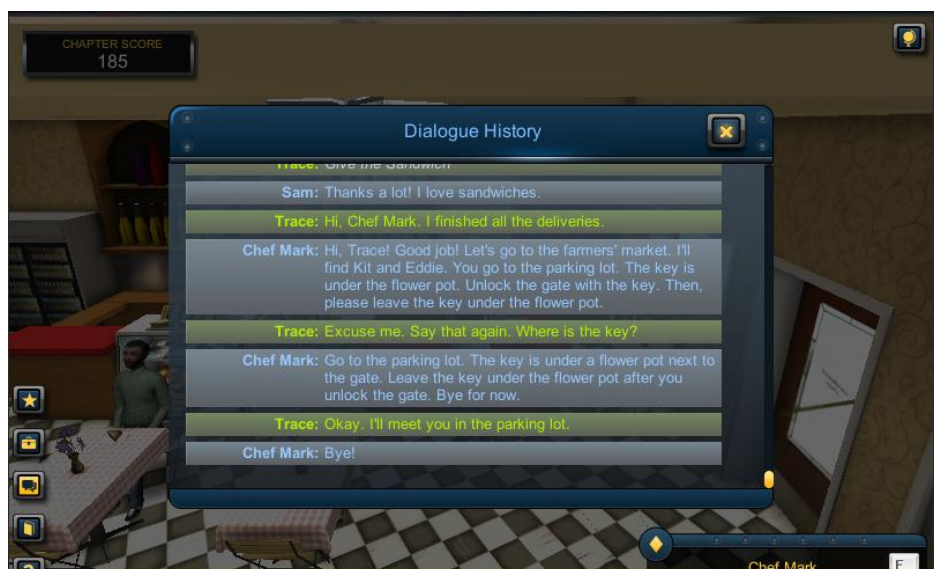
Students must scroll for additional dialogue options, but how do they know to do this?

This is true with the increase of the scoring (or lack thereof) as well as the game progresses. How do the students interpret the increase of scoring (or lack thereof) as they play? All these components of playing the game must be handled by the teacher if the game is to be meaningful to players.

Another factor to consider for teachers wanting to make the learning accessible for gaming students is the level of detail in the story line. Sometimes the depth of explanation is very detailed, but students need to remember it. Here is an example.

“Hi, Trace. Good job! Let’s go to the farmer’s market. I’ll find Kit and Eddie. You go to the parking lot. The key is under the flower pot. Unlock the gate with the key. Then please leave the key under the flower pot.”

This is an involved description of Trace’s next moves. Students will have to really concentrate to take it all in so they will know how to direct Trace. They may be quite dependent on the dialogue history as seen here, but need to be taught the importance of accessing this dialogue history because no reminders are given to the student in the midst of the story line. Teacher guidance will be critical at this juncture. The teacher should also pre-teach note taking skills to help the student be able to follow the instructions given by the game.



The exercises in this game go along with each chapter and are clearly designed to reinforce the vocabulary and content of the particulars of any given chapter. Like most good assessments that involve students selecting correct choices, the instructions contain words that are similar but with vastly different meanings. For example in Figure 1: Matching Exercise (below), the student is instructed to find *clothes* that match. On the page before, the student was instructed to find *colors* that match. Even as a native English speaker, I had to stop and think when I got to the second page because I was still on the wavelength of colors. Therefore, the language learner must read carefully and proceed with keen observation skills.

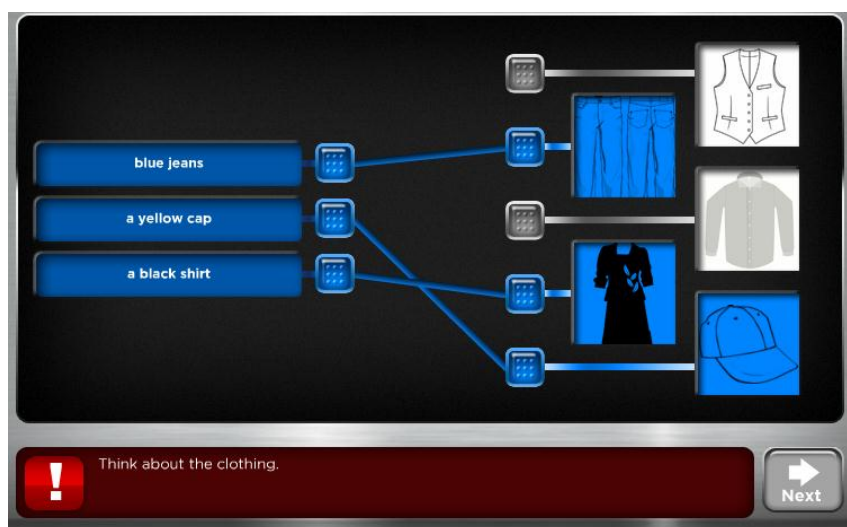
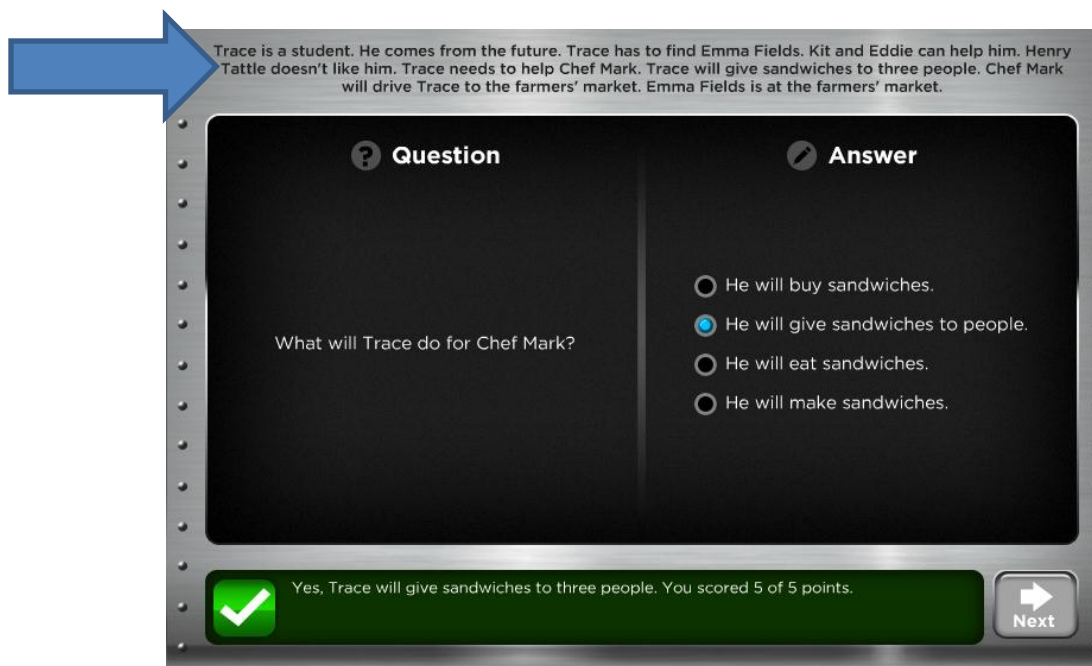


Figure 10: Matching Exercise

The English language learning in Trace Effects is done within the context of the story about Trace. Studies have shown that students retain knowledge longer and more comprehensibly when the information is taught within a narrative context. Any student carefully following the story of the game will have context for questions such as this one: “What will Trace do for Chef Mark?”



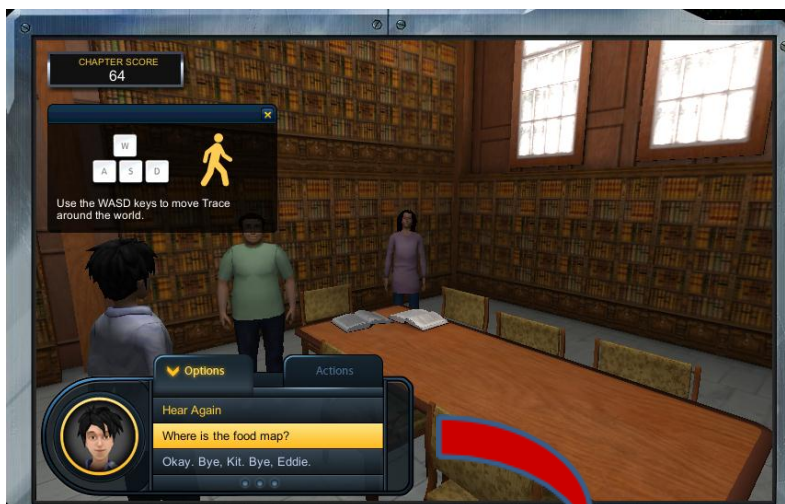
Students must be taught to exercise “[inference](#)”; a conclusion reached on the basis of evidence and reasoning.” Requiring students to react to prompts with inference requires a higher skill level than simple question and response assessments. In the example above, students are asked to determine who will **not** help Trace. Although the text does not explicitly imply that Henry Tattle will not, the language learner must imply this by the text that reads, “Henry Tattle doesn’t like him.”

How the application fits/doesn't fit with current learning and teaching theories:

According to the 2015 TESOL webcast on games and Trace Effects in particular, games create spaces for virtual reality that possess the potential to be immersive environments for intentional learning. Additionally, they allow for extensive materials for scaffolding and support, are female friendly, and prompt effort on the part of the learning community. Points or other forms of achievement must be included in games for them to appropriately motivate students. They should contribute to an emotional response from students; more specifically to feelings of collaboration and kindness. Of course, the key question is, “Does the game promote language use?” Learners need to know how to learn well from the environment of a game for it to be effective. Only with teachers mediating games and encouraging exploration will the game serve as an effective tool. Specifically, Trace Effects invites all of these features as Trace models collaboration and kindness in his quest to return home, and players are rewarded for good communicative discourse and for achieving the goal of each respective scene (i.e. to find Kit). Trace Effects also fits into the overarching concept regarding games, which is that they will increase language use amongst their participants.

However, one of the criticisms of Trace Effects is the act of acquiring a single word during the narrative and also in some of the exercises. Collecting a single word is not actually a communicative endeavor and discredits the game's strength as a language learning tool for the classroom.

On a smaller scale, below is an example of a structural strategy dealing with communication that Trace Effects models well.



Find the **food map**. He works in different food places.

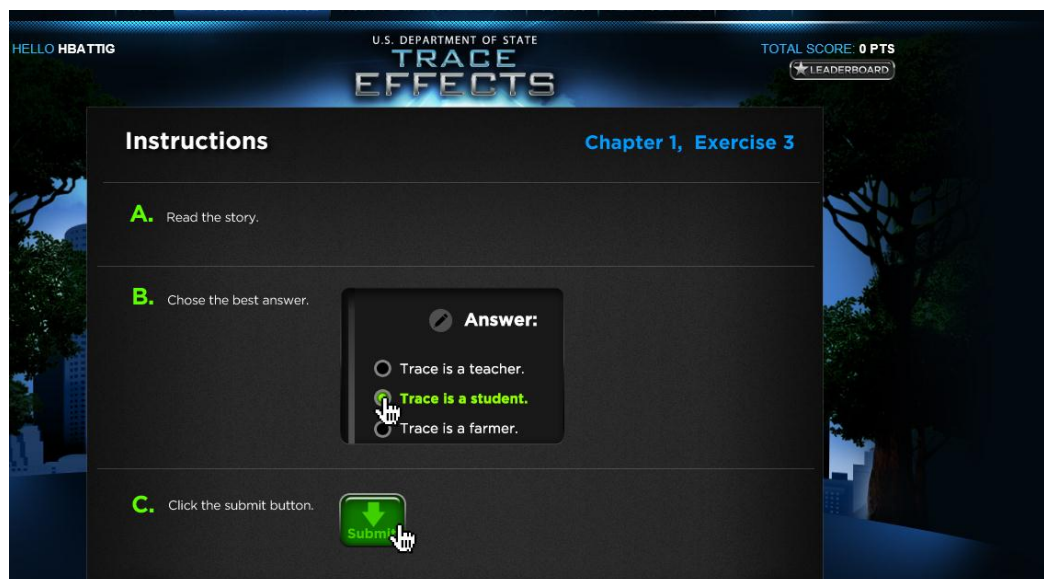
Where is the **food map**?

This is a good “theme rheme” structure that is part of the functional grammar strategies for supporting English language learners. Theme rheme structuring makes writing more cohesive, but also makes communication discourse more easily understood by English language learners. Here is another earlier but very similar example.

“Look at the **food map**.”

“Where’s the **food map**?”

All positive teaching theories include the idea of scaffolding. Trace Effects incorporates a good scaffolding model at the start of each lesson assessment as students are instructed on how to answer the questions included in the respective chapters. See the example below:

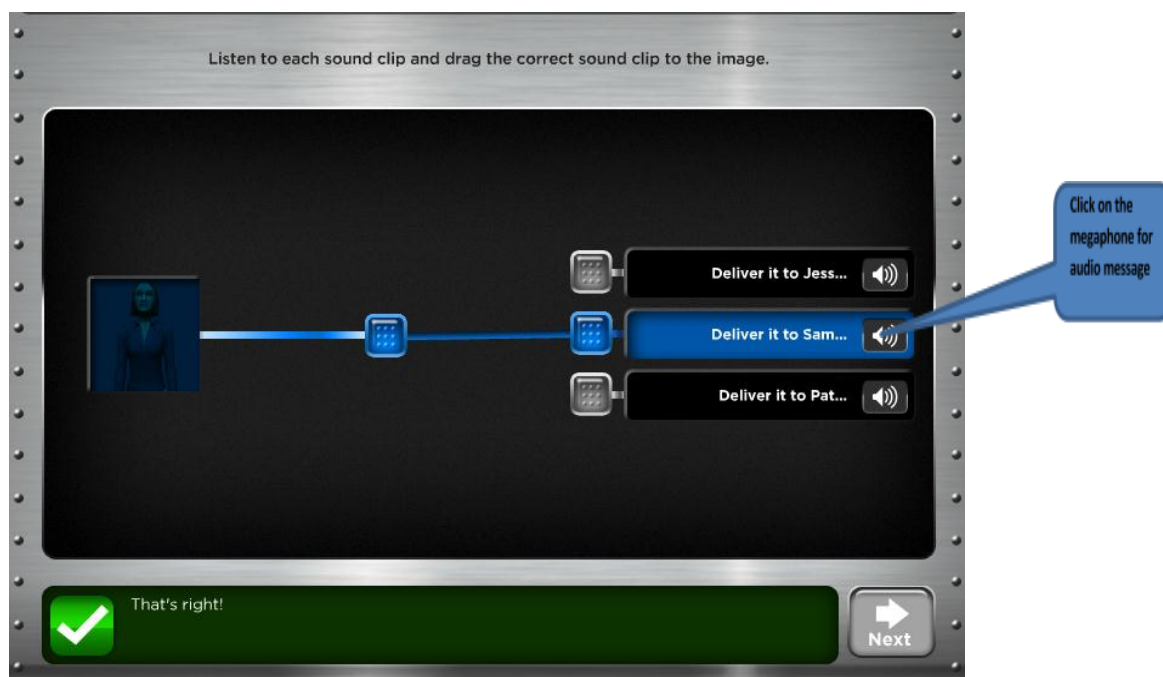


Incorporating Trace Effects into my teaching; preparation, supplementation, scaffolding, and follow up

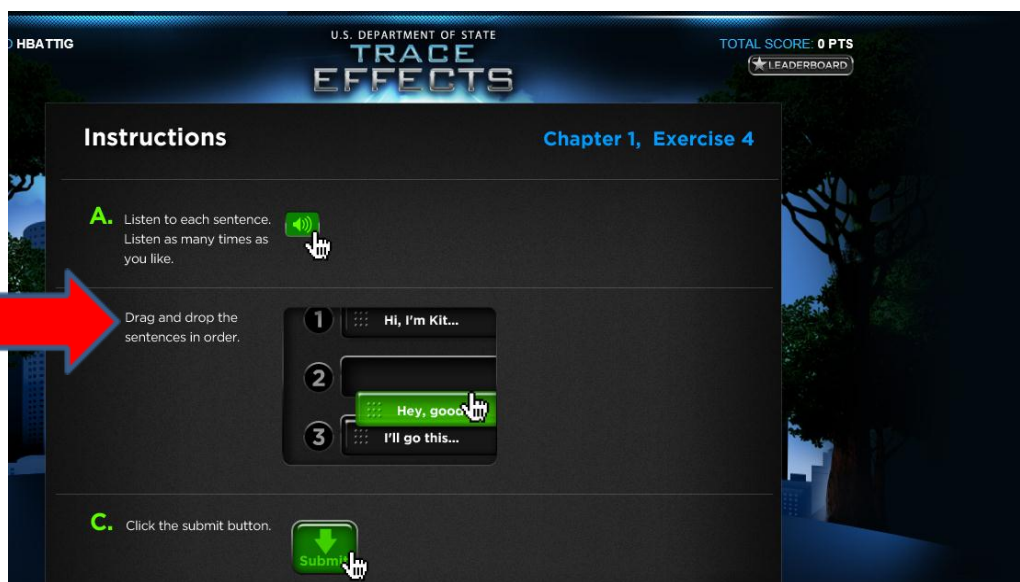
To prepare for teaching Trace Effects, I would first play through the entire game so that I had a thorough understanding of what lay ahead. I would also thoroughly read through the extensive [Teacher's Manual](#) which is provided to understand the potential for the game in teaching language. Scaffolding would include several preliminary items:

First on the technology side of things...

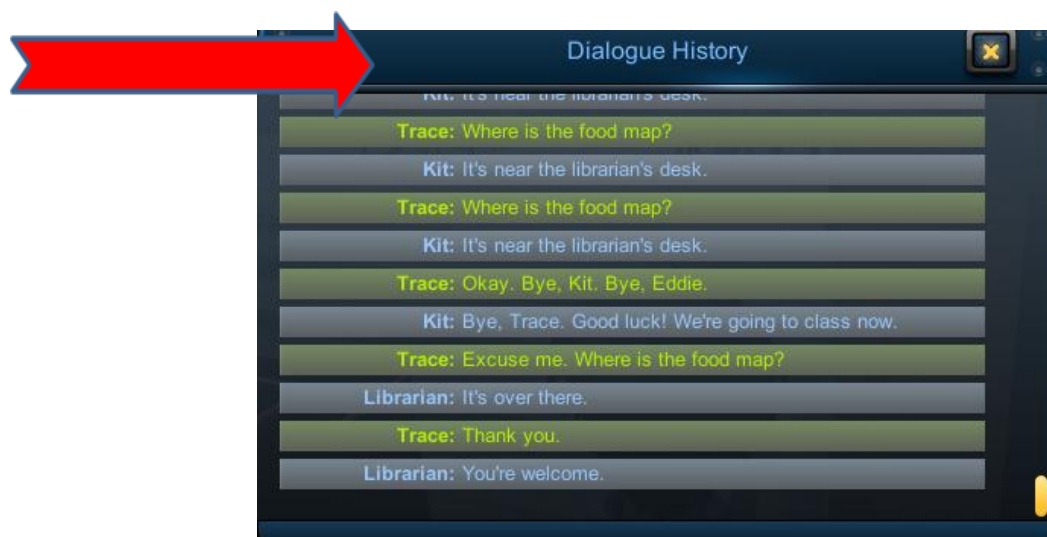
For completing the exercises following each chapter's narrative, I would need to pre-teach what the technology symbols represent. For example, the megaphone means there is an audio component.



Another pre-teaching example would involve explaining to students what it means to “drag and drop” (see below) so that they would be able to demonstrate their knowledge of the events in the narrative. (I had to teach myself first).



As already mentioned, I would also want to pre-teach features such as the dialogue history which could significantly aid students in following directives given during the game. The dialogue history provides additional scaffolding to make the game more accessible for beginning English learners.



I would pre-teach colors, articles of clothing, and anything else that comes to mind as I progress through the game. As a class we would discuss the idea of time travelers. Perhaps we would watch “Back to the Future,” dependent on my fresh review of the movie, especially since the students could be as young as 12.

We would also discuss the life of a college student so that they became familiar with words related to student life; student I.D., backpack, books, club booths, Student Union, to name a few.

Other reference helps to pre-teach would include showing students the user’s manual, dictionary, keyboard shortcuts for directing the main character, a site for checking status and inventory points awarded, and a map of the campus to reference as needed (refer to Figure 11). The teacher’s manual would be my starting point as I navigated my way through the story and sought to connect it with meaningful language teaching.

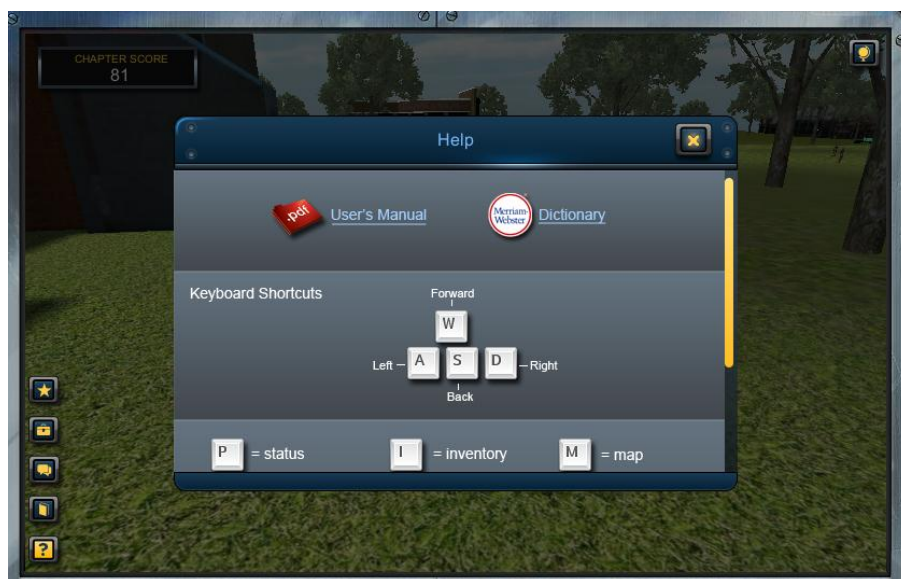


Figure 11: Keyboard Shortcuts

Follow up would include the reinforcement of grammar points covered, writing assignments, vocabulary and other types of appropriate assessments that relate to what is happening in the game. Extension activities could include creative classroom lessons about Google Earth in conjunction with teaching about the campus map and having students design their own student I.D. as they navigate Trace to update his I.D. at the Student Union.

Clearly, Trace Effects is more than just a game. For better or worse, Trace Effects is promoting a positive image of the U.S. for the sake of the U.S. State Dept. and the good will of U.S. citizens. In many respects, it is not dissimilar to the exchange programs (like FLEX; Future Leader's Exchange) awarded to worthy international students each year in the U.S. in order to instill good will in other countries. However, as shown above, its potential to create enthusiasm and motivation in language learning is also compelling. So come along and journey with Trace on his quest to return to 2045, but more importantly, to collaborate in the adventure of English language learning alongside young academicians in the far reaching global community.

Come alongside!



Video Game

Trace Effects

A collaborative English language video game experience for students ages 12-16. Learn English and explore American culture through puzzles, games, and adventures in an interactive world.

Play Game